UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,273	02/10/2004	Guy A. Daigle	WEAT/0542	1278

36735 7590 05/04/2005

MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 POST OAK BOULEVARD, SUITE 1500
HOUSTON, TX 77056-6582

EXAMINER	
ALLEN, ANDRE J	

ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/775,273	DAIGLE, GUY A.	
	Examiner	Art Unit	
	Andre J. Allen	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23 and 24* is/are allowed.

6)☒ Claim(s) *1,9,11,13-16 and 19-22* is/are rejected.

7)☒ Claim(s) *2-8,10,12,13 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2-10-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1,9,11,13-16,19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maron et al (US 6439005) in view of Fernald et al (US 6668656).

Regarding claims 1,19 and 22 Maroon et al teaches a housing 14, an optical based sensing element (col. 2 lines 52-55)(col. 5 lines 1-5) disposed in the housing 14 , a buffer fluid 33 (col. 2 lines 22-23) disposed in the housing 14 and in fluid communication with the sensing element 10, a pressure transmitter 20 coupled to the housing for maintaining a predefined relationship between pressures of the first and buffer fluids; a connector 32 assembly coupled to the housing 14 (col. 7 lines 66), and an transmission 30 coupling the sensing element 18 to the connector assembly 32 (col. 7 lines 65 –col. 8 lines 1-5). Maroon et al however, does not clearly show use of an optical waveguide. Fernald et al teaches an optical sensor assembly having an optical waveguide 10 (abstract).

It would have been obvious to a person having ordinary skill in the art of optical sensors at the time the invention was made to modify the sensor assembly taught by Maroon et al with an optical waveguide as taught by Fernald et al for the purpose of providing sensor reliability in harsh environments and minimizing creep.

Regarding claim 9 Maron et al teaches a guide disposed in the housing between the sensing element and the connector assembly, wherein the guide allows a serpentine length of fiber to pass there through (col. 7 lines 62-68 – col. 8 lines 2-5).

Regarding claim 11 Maron et al teaches a buffer tube 33 having a first end fluidly coupled to a port adapted to allow the first fluid to enter the sensor and a second end disposed within the housing, the buffer tube at least partially filled with buffer fluid (col. 2 lines 20-25)(col. 6 lines 65-col. 7 lines 1-5).

Regarding claims 14 and 16 Maron et,al teaches the sensing element further comprises a Bragg grating sensor with optical fiber (col. 2 lines 55-56).

Regarding claim 15 Maroon teaches Brag Grating technology but does not teach a large diameter optical waveguide. Fernald et al teaches a Bragg Grating arrangement having a large diameter optical waveguide (abstract)(col. 2 lines 40-43). It would have been obvious to a person havig ordinary skill in the art at the time the invention was made to modify the optical sensor taught b y Maroon to include a large diameter optical waveguide as taught by Fernald et al for the purpose of improving optical transmission and eliminating hysteresis (Fernald et al col. 2 lines 13-15)

Regarding claim 20 at least one guard 40 42 coupled to the sensing element and adapted to prevent the sensing element from contacting the housing (col. 7 lines 1-10).

Regarding claim 21 Maroon teaches at least one of the guards is configured to allow buffer fluid to pass between the guard and the housing (col.7 lines 40-45).

Allowable Subject Matter

2. Claims 23-24 are allowed.

Claims 2-8,10,12,13 and 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 2,10,12,17 and 23 the present invention is deemed to be directed to a distinct and obvious improvement over Maron et al (US 6439005) in view of Fernald et al (US 6668656). The claims comprise an inner shell coupled to the transmitter assembly and partially defining a sensing chamber having the sensing element and at least a portion of the buffer fluid disposed therein, a hollow sleeve disposed in the housing and passing there through, having the optical waveguide a plurality of crimps formed in the sleeve creating restricted

diameter sections within the sleeve, and an adhesive disposed in the sleeve, an inner row of coils, a second row of coils, wherein the second row of coils has a greater diameter than the first row of coils .

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre J. Allen whose telephone number is 571-272-2174. The examiner can normally be reached on mon-fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

André Allen
Patent Examiner
Art Unit 2855

William Oen
Primary Examiner